

ABSTRACT

A catalyst composition for oxidative dehydrogenation of paraffinic hydrocarbons and other compounds having at least two adjacent carbon atoms each having at least one hydrogen atom. The catalyst composition is represented by the formula



wherein A is an alkali or alkaline earth metal; B is one or more optional elements selected from zinc, cadmium, lead, nickel, cobalt, iron, chromium, bismuth, gallium, niobium, tin and neodymium; a is 0 to 0.3, b is 0 to 5, c is 0.5 to 10, d is 1, e is 3 to 10, $7 \leq a+b+c+d+e \leq 25$, and x is determined by the valence requirements of the elements present. A process for the oxidative dehydrogenation of paraffins using the catalyst composition.